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Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
2. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification and, except for the title of the invention, each of the lettered items should be preceded by the headings indicated below.

- (a) Title of the Invention.
- (b) Cross-References to Related Applications (if any).
- © Statement as to rights to inventions made under Federally-sponsored research and development (if any).
- (d) Background of the invention.
 1. Field of the Invention.
 2. Description of the Related Art including information disclosed under 37 CFR 1.97-1.99.
- (e) Summary of the Invention.
- (f) Brief Description of the Drawing.
- (g) Description of the Preferred Embodiment(s).
- (h) Claim(s).
- (I) Abstract of the Disclosure.

Applicant should provide appropriate headings for this specification. The "Brief Description of the Drawing" which briefly describes each of Figures 1-43 must be provided. In this specification, brief descriptions of Figures 1-6 are not properly provided.

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3. The country of the patents cited in line 10 page 1 of the specification should be provided. Applicant should update the status of the Italian Patent Application No. 92A000012 by providing the its patent number if available.

Claim Rejections - 35 USC § 112

4. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "characterized in that" used through-out the claims renders each claim indefinite since it is unclear as to what "characterize" includes or excludes. The word -- wherein - - is suggested to be used instead.

Claim 1 is indefinite because of the uses of expressions "or" and "and/or" which cause the claim to include non-equivalent alternatives. Such expressions fail to clearly set forth the metes and bounds of the claimed invention. Some of them are "work **or** treatment station", "either to convey the same to at least one work or treatment station **or** to transfer it to a receiving conveying template" and "retention means ... in the said pick-up means **and/or** in the said receiving conveying template". Claim 1 must be rewritten to clearly set forth where the retention means is located. If the retention means is located in either or both of the pick-up means, such locations must be written in different claims because the locations of the retention means of the instant claim invention are non-equivalent limitations.

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Claim 1 also contains a number of expressions that are confusing. Some of them are “appropriate for” in lines 5-6, “ moulding” in line 15, “the same’ in lines 16 and 18 and “and/or” in line 22.

Claim 1 should be totally rewritten to a new claim which clearly set forth the structural scope of the claimed device. The location and function of the retention means must be clearly described in the claim. Structural interrelationships and cooperating functions between the dies, the product removal means and the product conveying template should also be clearly described in the claim.

With respect to indefiniteness of claims 2-24, since claim 1 is so indefinite and should be totally modified, each of claims 2-24 should also be carefully rewritten to provide appropriate antecedent basis, structural interrelationships and cooperating functions of the recited elements in each claim. Each of the claims should be totally rewritten to clearly define the structural scope of the product removal plate (16) as depicted in figures 16 and 18; the conveying template (17) and its species depicted in figures 19-53; and the conveyor (24) for moving the templates as depicted in figures 9-14.

Claims 3 and 4 contain indefinite expressions which are “plate-like” and “plate-shaped”respectively. In claim 4 “t to be” should be corrected.

Claim 9 should be changed to depend on claim 6 instead of claim 5; otherwise the claim is indefinite.

Claim 21 should be changed to depend on claim 20, instead of itself.

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The expression "or else" in claim 22 renders the claim indefinite.

Claim 23 is indefinite because the expression " a respective dummy receiving seat" is confusing.

In claim 24, "push road" should be corrected to -- push rod --.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

6. Claims 1-2, 5-9 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Padovani (US Pat. No. 5,453,237).

Padovani '237 teaches a thermoforming apparatus comprising a product removing plate (27, 28) and a product transferring plate (37) having holes or seats (38) which are provided with means for retaining the product thereon so that the thermoformed product can be transported from one station to another. Padovani also discloses that the diameter of the holes of the transferring plate is smaller than that of the product so that the thermoformed product is resiliently held by the transferring plate.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10, 11, 14 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Padovani No. 5,453,237 taken together with Padovani 5,118,277.

As discussed in paragraph No. 6 above, the thermoforming apparatus of Padovani '237 substantially comprises every structural feature of the claimed device except for a truncated conical collar. Padovani '277 teaches an apparatus in the same field of endeavor comprising a means for retaining a thermoformed container (see Fig. 7) wherein the retention means comprises a retainer plate having conical seat and a conical collar (47) made of resilient material mounted in the retainer plate for resiliently supporting the container. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermoforming apparatus disclosed Padovani '237 by providing for its transferring plate with a resilient conical collar as taught by Padovani '277 to improve retaining the thermoformed container thereon.

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9. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references discussed in paragraph No. 8 above as applied to claims 10, 11, 14 and 22 above, and further in view of Beyer-Olsen et al..

Beyer-Olsen teaches an apparatus for removing molded articles from a molding device comprising a carousel conveyor having a plurality of arms, each arm being provided with a means for gripping the molded article and moving said article to another location. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus discussed in paragraph No. 8 above by designing the conveyor for moving the transferring plates as a carousel conveyor as taught by Beyer-Olsen to facilitate conveying the molded parts.

Allowable Subject Matter

10. Claims 12, 13, 15, 17, 18, 19, 20, 21, 23 and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach, disclose or suggest a thermoforming apparatus comprising a plurality moving transferring plates for receiving thermoformed articles from a pick-up head wherein each transferring plate is provided with a retention means as recited in the instant claims and as depicted in figures 25, 35, 37-38, 39-40, 46-47 and 50-53.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh P. Nguyen whose telephone number is (703) 308-1194.



KHANH P. NGUYEN
PRIMARY EXAMINER
GROUP 1300

KPN

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